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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,933	08/27/2003	Thomas J. Fleischman	FIS920030167US1	1932

29154 7590 09/07/2004

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EXAMINER

KARLSEN, ERNEST F

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,933	FLEISCHMAN ET AL.	
	Examiner	Art Unit	
	Ernest F. Karlson	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 7-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0803</u> . | 6) <input type="checkbox"/> Other: ____ |

The Restriction Requirement of July 14, 2004 required election between the inventions of Groups I and II and if Group I was elected further election was required between Species 1 and Species 2. In their reply of July 22, 2004 Applicants elected Group I without specifying any species. The Examiner called Mr. Frederick W. Gibb III on August 9, 2004 requesting an election of species as set forth by the requirements of pages 2 and 3 of the Restriction Requirement. The Examiner communicated with Mr. Gibb via his associate Ms. Sparkle Gunther and Mr. Gibb elected Species 1 without traverse stating that claims 1-4 and 6 read on Species 1.

Claims 5 and 7-22 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions and/or species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on July 22, 2004 and the telephone communication of August 9, 2004.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeiffer et al in view of Deutsch et al.

Pfeiffer et al show the testing of a greensheet but does not show non-functional test structures located in regions outside functional wiring modules. With regard to claims 1, 3 and 4 Deutsch et al show the use of non-functional test structures located in regions outside functional wiring modules. Deutsch et al show structure that is a

multi-layer thin-film multichip carrier but no mention of "greensheet" is present. The greensheet apparatus of Pfeiffer and the module of Deutsch et al are considered alternative kinds of multichip carriers at the time of the invention. Also with regard to claims 1, 3 and 4 Deutsch et al show test structure wherein the spacing and size of the functional wiring is indicated by the non-functional test structure. See the whole disclosure of Deutsch et al and particularly column 7, lines 40-47. It would have been obvious to one of ordinary skill in the art at the time of the invention to have adapted the test technique of Deutsch et al to the apparatus of Pfeiffer et al because so doing would enable testing of the device of Pfeiffer et al without the use of an electron beam apparatus with all of its complexity and expense.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeiffer et al in view of Deutsch et al as applied above with respect to claim 1 and further in view of Freed.

Pfeiffer et al and Deutsch et al were discussed above but the combination thereof does not include test structure in a kerf area wherein the test structures and kerf material is removed on dicing. Freed shows a plurality of semiconductor devices on a wafer wherein test structures are located in kerf areas and the test structures and kerf areas are removed when diced. With regard to claims 2 and 6 see column 2, lines 15 to

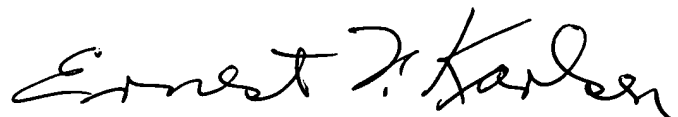
20 of Freed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have placed the test structures of the apparatus resulting from the combination of Pfeiffer et al and Deutsch et al in an area removed when dicing in accord with the teaching of Freed because one of ordinary skill would realize that so doing would result in a smaller package or module.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Magdo is cited to show additional apparatus similar to Deutsch et al. See the abstract, column 2, lines 30-45 and column 4, lines 1-19 of Magdo. Hubacher, Stopper and Farnworth et al are cited to show additional apparatus similar to Freed.

Any inquiry concerning this communication should be directed to Ernest F. Karlson at telephone number 571-272-1961.

Ernest F. Karlson

September 1, 2004

A handwritten signature in black ink that reads "Ernest F. Karlson". The signature is written in a cursive, flowing style with a large, stylized "K".

**ERNEST KARLSEN
PRIMARY EXAMINER**